

# **L888**

## **Western China Route**

### ***'The Silk Road'***

**Captain Murray Warfield**  
**General Manager Regulatory & Industry Affairs**  
**QANTAS Airways Ltd.**



# L888 - Background

- 1993 - Asia to Europe routes.



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  - Challenges:
    - **Political Tensions**

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  - Challenges:
    - **Political Tensions**
    - **Inefficient route network**
    - **Enroute congestion**
    - **Commercial requirement for non-stop flights**

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- **Need to improve route network**
  - **:**
    - **Safety**
    - **Economical**

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- ***QANTAS* Route Study**

Optimum Routes  
BKK to LHR

60 N

Great Circle

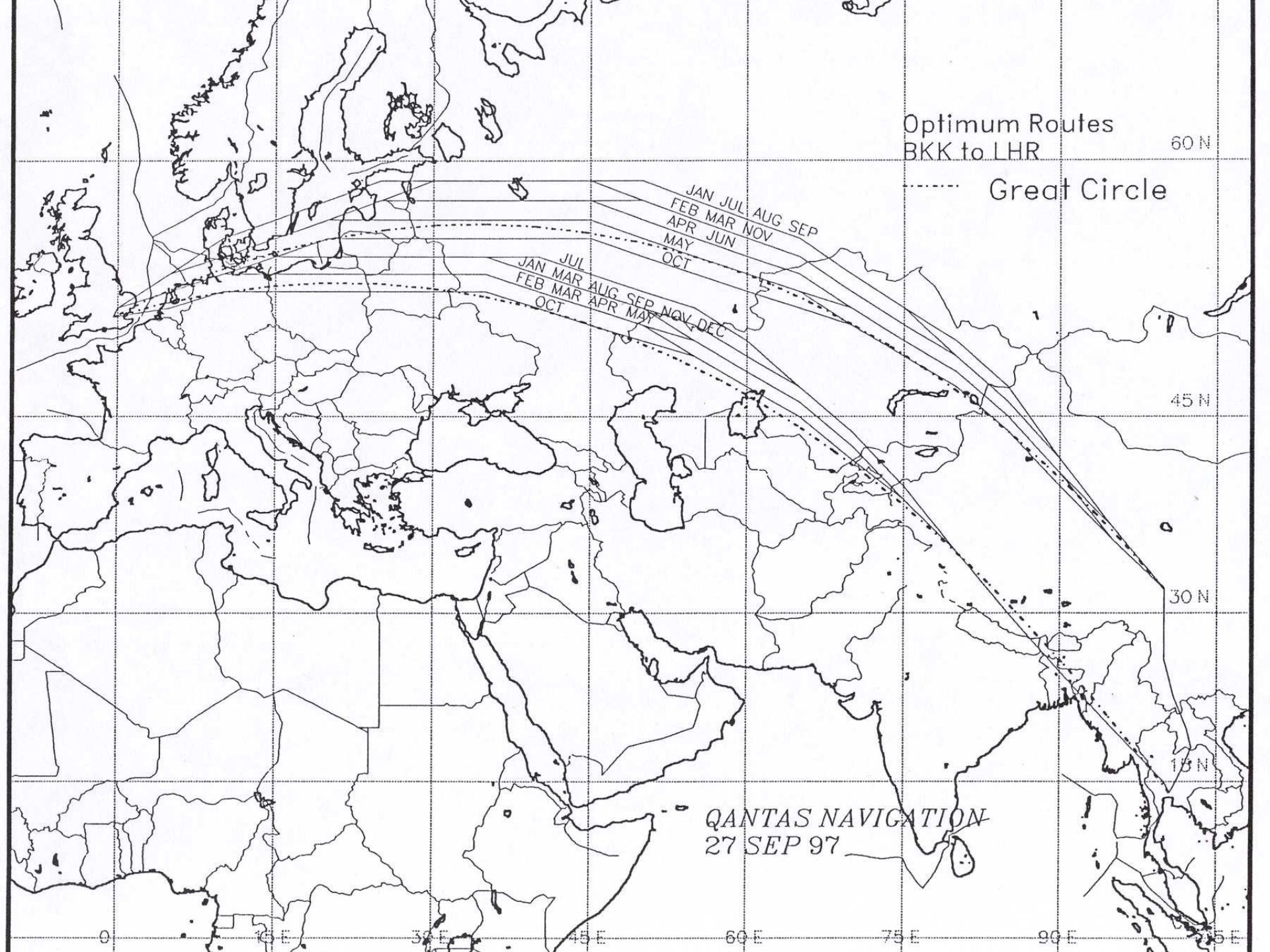
45 N

30 N

15 N

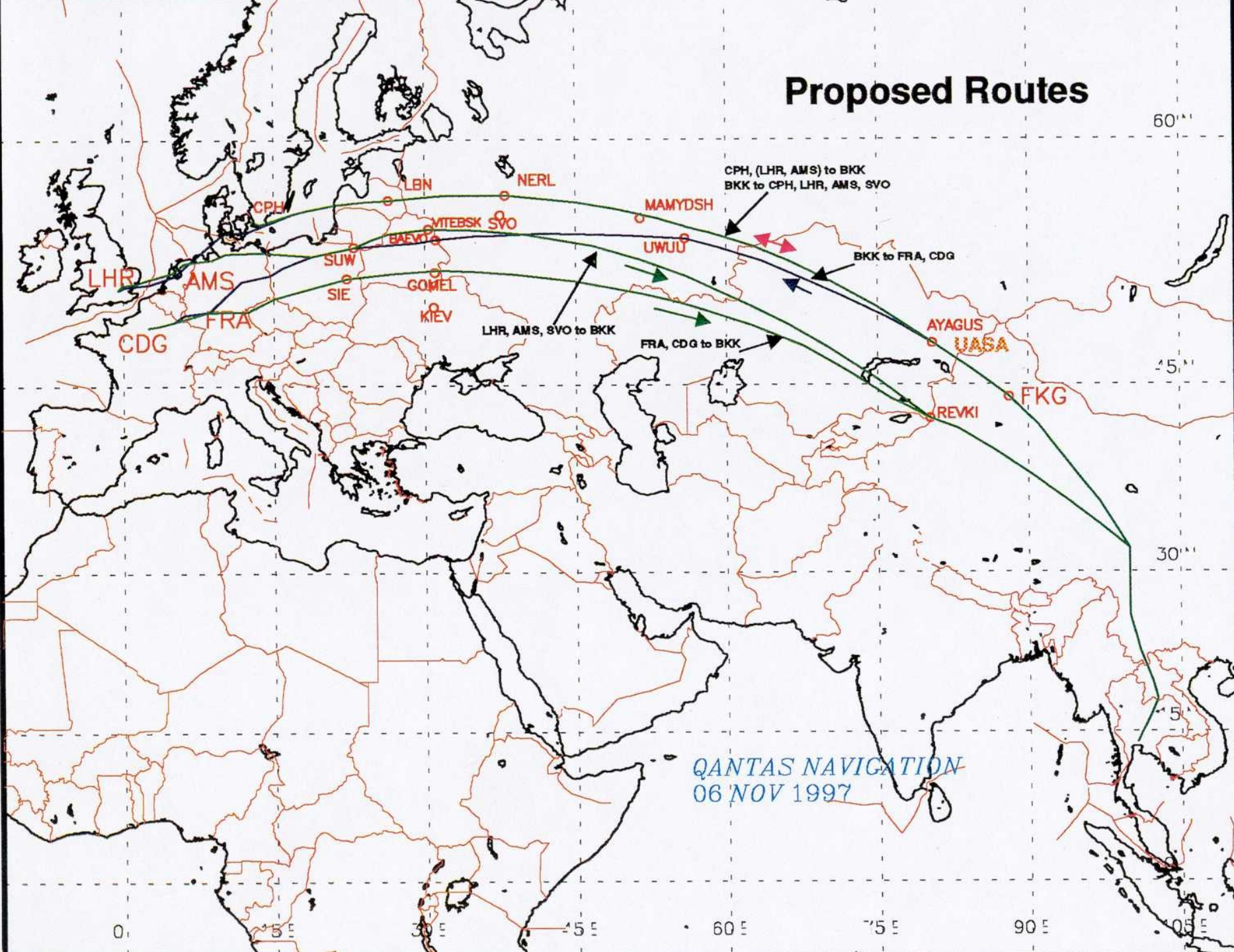
QANTAS NAVIGATION  
27 SEP 97

0 15 E 30 E 45 E 60 E 75 E 90 E 105 E





# Proposed Routes



# L888 - Background

- **Need to improve route network :**
  - **Safety**
  - **Economical**
- ***QANTAS* Route Study**
  - **China - Depressurisation problems**
    - » **Safety Heights > 20,000'**
    - » **High Navigation accuracy required**
    - » **Weather forecasting**

# L888 - Background

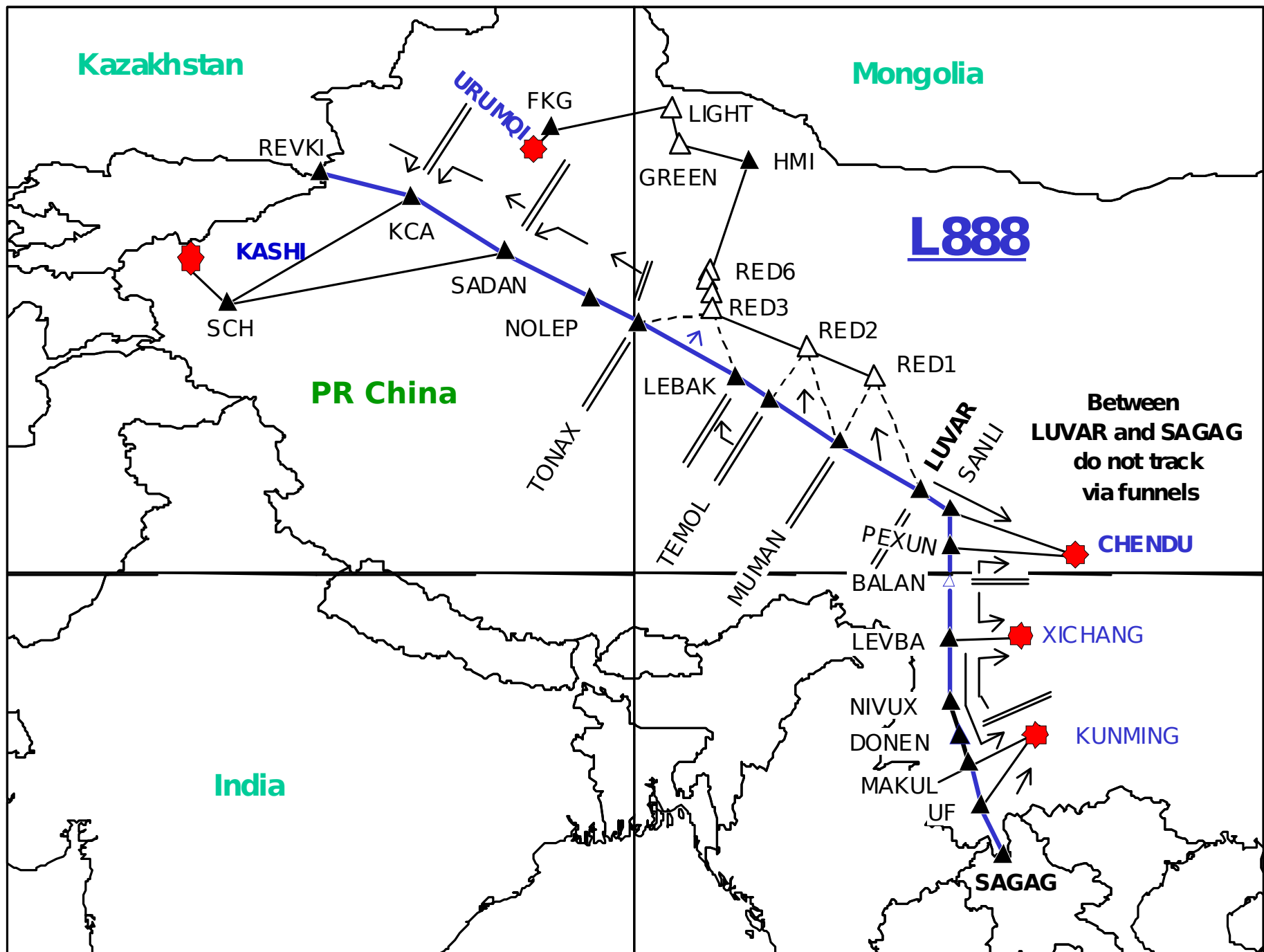
- **B747-400**
- **FANS - 1**
- **Revised QF route analysis**

# L888 - Background

- ***QANTAS* Route Study**
  - Presented to industry : IATA RCG
  - Accepted by industry.
- **Work commenced 1994**

# L888 - Today

- ICAO Route designation - 1999
- Workstation installation - 2000
- Controller training - 2000
- AIP Supplement - April 2000
- Testing - April 2000
- First Flight - 23 June 2000
- Regular Flights - March 2001













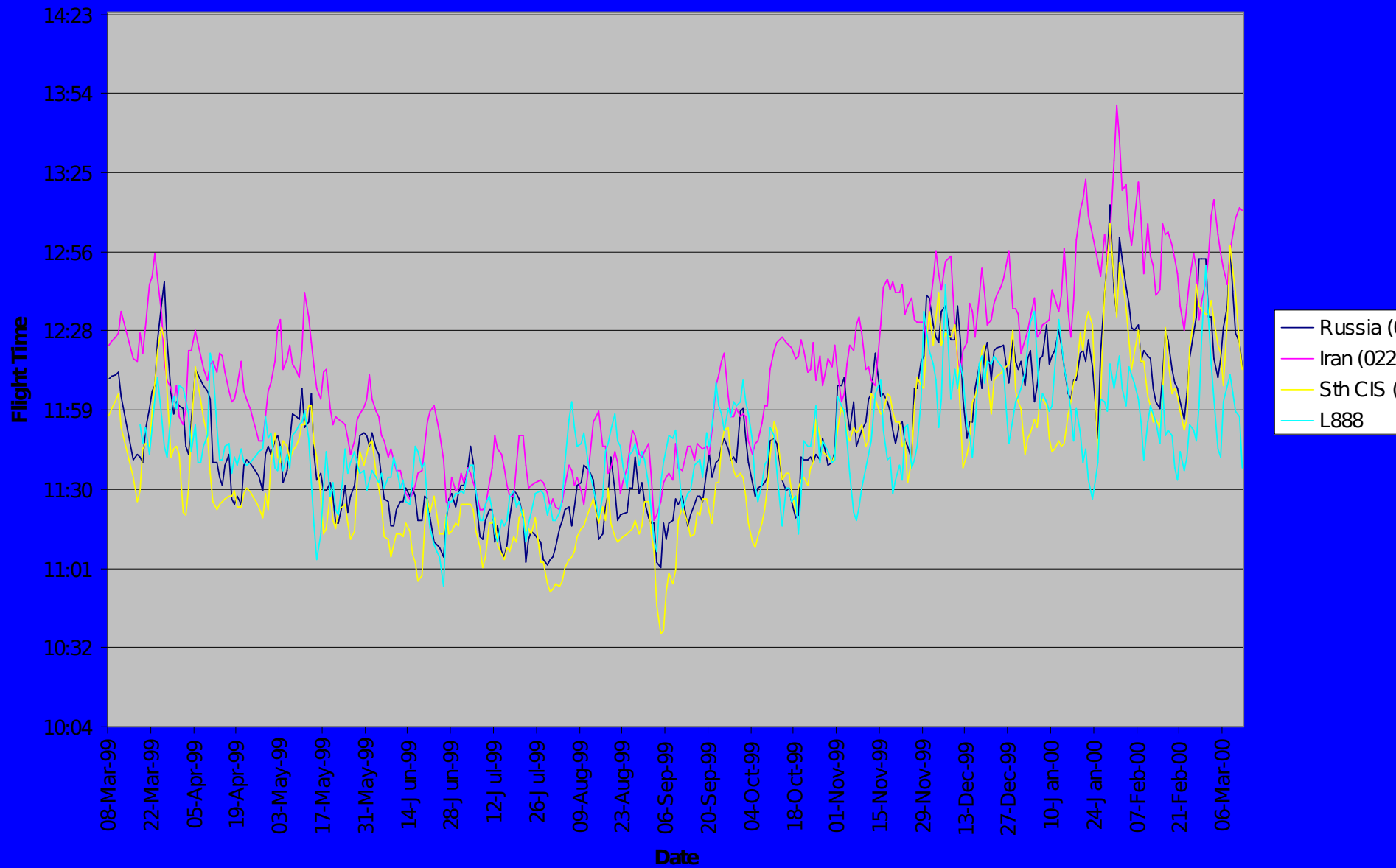
# Weather and Climate

- No previous history
- Jetstream winds - 150knots
- High mountainous terrain
- New Zealand Metservice study
- Safety precautions
- Airport reports

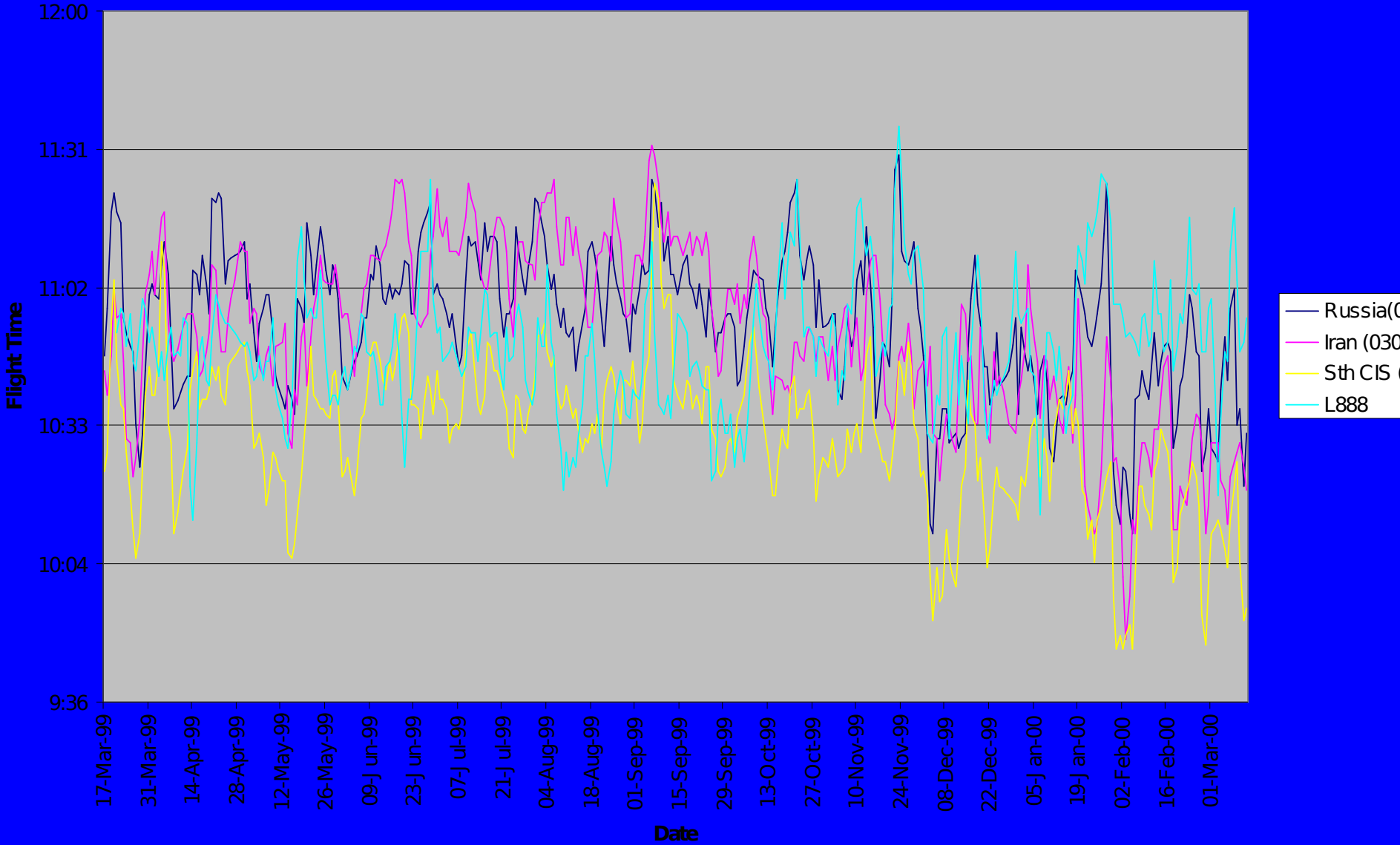
# Validation

- 12 Months
- 4 Main tracks
- Daily Flight Plans:
  - Fuel (Maximum Payload)
  - Time
  - Cost (Fuel, Crew, Overflight Charges)

# FLIGHT TIME BKK-LHR



# FLIGHT TIME LHR-BKK



# The L888 FIRSTs

- First CNS/ATM Route over land.
- Simulator configured as an aircraft for trials.
- Flight Management Computer configured for Escape Routes.
- Weather forecasting validation.

# The Benefits

- Improved Safety, Reliability and Integrity.
- China has CNS/ATM technology.
- QANTAS has route optioning.
- Competitive environment established between States.

# The Problems

- Bureaucratic.
- Regulatory.
- Competitive.

# The Future

- Safe and Seamless Air Traffic Control across all regions.
- Move towards `FREE FLIGHT`
  - 4D Flight:Flex Tracks

Dynamic Rerouting

User Preferred

Trajectories



*Any Questions??*

